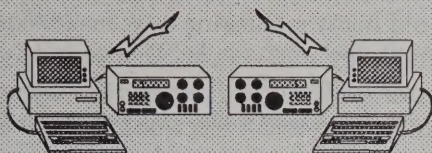
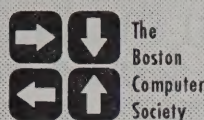


\$1.00



The Wireless Bitstream

The Newsletter of the BCS Amateur Radio Special Interest Group
Volume #3 Number #3

May 1991

The Hamfest Junkie, Part I

by Fred Lloyd, AA7BQ

[Editor's note-In a previous issue, The Wireless Bitstream brought you tips on buying used equipment. We're proud to present this follow-on article by AA7BQ. We hope beginners and experienced hams alike will enjoy Fred's tips. Originally written for USENET, Fred generously gave us permission to make it available to you. Part II will appear in the July issue.]

Sometimes, a non-ham friend will ask me, "What's a hamfest?" My usual response is, "It's a flea market where electronic and ham radio stuff is sold." Sounds deceptively simple, doesn't it?

Of all the amateur radio activities I participate in, none gets me more excited than a good, old-fashioned hamfest/swap meet. My first swap meet was the Foothills Flea Market, held once a month during the summer in Silicon Valley. Just like the pusher who sold the addict his first fix, the Foothills swap meet has left me forever addicted to the art of buying/selling/trading ham equipment. I'm now destined to return time and time again to fulfill what has become an insatiable appetite for the junk "bargain of the century."

Several hamfests later, I had accumulated enough junk to become a dealer in my own right. Shortly thereafter I bought a folding table, set up shop, and became user/dealer of this licit commodity. I must also confess to inflicting the same addiction upon others, both to satisfy my own habit and to build a network of friends and acquaintances with whom I could trade on a regular basis. Later, I began buying junk not for myself but for the intent purpose of reselling it at future hamfests—tsk, tsk... shame!

After two years of this activity, I've overcome my denial and am coming out of the closet as a self-affirmed, publicly-confessed, "junkie." Now that I've been exposed,

I'd like to share with you what I've learned, so you may profit (both in fun and dollars) and avoid some of the pitfalls that I've discovered along the way.

Experience shows that prime time at most swap meets is between 8 and 10 AM.

There are basically two kinds of junkies: buyers and buyer/sellers. Most if not all buyer/sellers started out as simple buyers. No doubt many readers will have attended swap meets themselves and have probably heard several hamfest "rules of thumb." In the following paragraphs, I'll talk about some of these rules and about a few others that I've learned on my own.

People say, "Get there early, because all the good deals go down before daybreak."

Well... yes and no. The "good deals" that go down early are often made by two groups: ignorant sellers and smart buyers, or smart sell-

(Continued on Page 3, *Junkie*)

From the (New) Editor
by Charlie Ross, NC1N

As you read in our last issue, Tom Walsh, K1TW, has resigned as editor of *The Wireless Bitstream*. In over two years as editor, Tom did a terrific job in making TWB a first-class newsletter, and we should all be grateful for the effort he put in. Having watched him from the sidelines, I can testify that it was a lot of work.

I intend *The Wireless Bitstream* to continue in its efforts to help newcomers get started.

Though I would have remained quite comfortable on the sidelines, I agreed to fill the void created by Tom's resignation. I've offered to serve as TWB's editor for the remainder of 1991 (i.e., the May, July, September, and

(Continued on Page 6, *Editor*)

Table of Contents

Features

Hamfest Junkie (Pt. 1)	1
From the Editor	1
"Elmers" On-Line	2
The WA1PHY Story	4
Call for Papers	7
FCC Packet Update	7

Columns

Calendar	8
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The Wireless Bitstream



Newsletter of
The Boston Computer Society
Amateur Radio
Special Interest Group
Charlie Ross, NC1N, Editor

Director Barry M. Porter, KB1PA
Vice Director Charlie Ross, NC1N
Seminars Paul Graveline, K1YUB
Board Member Tom McGee, KA1TOX
Meeting Planner Ron Alpert, KA1UGD

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Bob Wroblewski
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Terry Stader, KA8SCP

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Elmers On-Line With the Internet

by Charlie Ross, NC1N

Based on a posting by Paul Schleck, KD3FU

Ham radio has a long tradition of old hams mentoring new hams. For some reason (lost, like so many, in folklore), a ham radio mentor/helper is called an *elmer*. In today's electronically-networked environment, elmering has taken on a new dimension (and tool): electronic mail.

On the Internet (an inter-operating group of digital networks used for scientific and technical communications), KD3FU is compiling a directory of what he calls "On-Line Elmers." These are people who, by virtue of skill and knowledge in an area of expertise in ham radio, are willing to field e-mail by people with questions.

Important Information about the BCS Ham SIG!

Meeting Time and Directions

The BCS Amateur Radio SIG meets on the first Tuesday of each month at 7:30 PM at MIT Sloan School, Cambridge, MA. Anyone with an interest in amateur radio or shortwave listening (swl) applications for the personal computer is invited and welcome to attend. Directions: Sloan School is at the corner of Wadsworth and Amherst Street. Getting on Memorial Drive from the North, Wadsworth Street is the first right on Memorial Drive. Coming from the South on Memorial Drive, after going under Route 2 (Mass Ave.) Wadsworth is the second left turn. By T, take the Green Line and get off the Cambridge Center/MIT, and walk down Wadsworth Street. There is free parking in the Sloan School Parking Lot.

Use Our BBS:

You are encouraged to use the Ham Radio Section on the BCS MAC Multi-line BBS (617) 625-6747 (300-2400 baud). When you call, select "J"ump to other BCS groups from the main menu; then select 1 for the Ham Radio Area. There are three areas: 1) for general messages (local); 2) for the National Packet Echo and 3) for PD/Shareware/Freeware files. Please use the local message area to discuss issues of interest to computer hams and swls or to seek advice and help.

Newsletter Contributions

Individual contributions to *The Wireless Bitstream* are always welcome. In addition, we are currently seeking regular contributors/columnists on all radio-related subjects involving personal computers. Contributions to the newsletter can be made by 1) By leaving a message to Charlie Ross on the BCS•MAC BBS (617-625-6747), or (2) by U.S. Mail to Charlie Ross, NC1N, 12 Hemlock Drive, Medway, MA 02053. ☐☐

The current list is available by anonymous FTP transfer from the Internet node ftp.cs.buffalo.edu, under the subdirectory /pub/ham-radio. It's also posted monthly to the ham radio newsgroups on Usenet.

Want to volunteer? You need only send Paul your name, e-mail address, and area of expertise. He suggests the following areas where expertise is needed:

1. Volunteer Examiners
2. Novice Instructors
3. DX'ers and Contesters
4. QRP
5. Homebrewers
6. Packet Ops (both AX.25 and TCP/IP)
7. VHF and Repeaters
8. OSCAR and other satellites
9. MARS (Military Affiliate Radio System)
10. CAP (Civil Air Patrol)
11. ARES (Amateur Radio Emergency Service)
12. RACES (Radio Amateur Civil Emergency Service)
13. Skywarn (Amateur Weather Spotters)
14. ARRL Field Organization

"Generalist" and "Miscellaneous" elmers are also quite welcome. To volunteer, send Paul e-mail either at acmnews@zeus.unomaha.edu (uunet!unocss!zeus!acmnews) or ps67@umail.umd.edu (uunet!mimsy!umail!ps67).

Not on the Internet? Then *The Wireless Bitstream* has a proposal for you. The same concept could be put together locally—using either AX.25 packet radio, amateur TCP/IP, or a landline BBS such as ours. All it would take is for one person to take the initiative, like Paul did. Maybe you? ☐☐

(*Junkie* Continued from page 1)

ers and ignorant buyers. Hopefully, you will be on the buying end of the former group, and on neither end of the latter.

Ignorant sellers are those who offer, say, a Kenwood TS-940 for \$400. They don't know what their stuff is worth—and since they haven't toured the hamfest grounds yet, they're not likely to find out. Should you take advantage of their ignorance? Well, if you don't, then *someone else* surely will. Watch out for basket cases. Don't hesitate to ask the big question, "Why are you selling it?" Pay close attention to lot's of "uh's" and "er's" in the answer.

How many hot, smoking deals on late model, expensive gear are available? Few, if any. Most hams know what they have, know what they paid for it, and know what it's worth. If you hear a fantastic deal like "I'm selling this 940 for \$400 because I just want to get rid of it." then *buyer beware*. There is no free lunch—if it looks too good to be true, chances are it is. The best value deals are usually on five to ten year-old equipment.

Ignorant buyers are those who blindly believe "the best deals are the early deals" and are predisposed to spending their money no matter what. They will probably buy the first piece of equipment they see which remotely resembles their wants and needs. An informed buyer will have cased the entire swap meet at least once before making an offer on anything.

Experience shows that prime time at most swap meets is between 8 and 10 AM. Swap meets which start earlier sometimes do some business before 8 but the real crowds, and the real competition (both buying and selling) happens during prime time. Prices never go up as the day wears on, only down.

Another "great deal" opportunity is near closing time. You can often prey on seller desperation by waiting until the close, when guys

are packing up. Submit an insultingly low offer. If a guy's hungry, he might just take it. Many sellers revert to giving things away rather than carting them home. I've picked up—and disposed of—some good stuff this way.

I've been asked, "I've got a few things to sell. How do I set up a booth?"

A few basic things: try not to look too professional and try not to look too naive. If you look like the sidewalk sale at K-Mart, then many buyers will peg you as a pro and will walk right on by. If, on the other hand, your junk is heaped in a pile, you'll get plenty of lookers rummaging through it, but don't expect to make any money. Try for a middle-ground, soft-sell approach. Avoid prepackaged and shrink-wrapped items. Avoid store-bought price stickers. Arrange your merchandise so people can easily gather around and touch it. If you have original equipment boxes, keep them visible but off of the main display (it looks too professional).

The "good deals" that go down early are often made by two groups: ignorant sellers and smart buyers, or smart sellers and ignorant buyers.

Don't use a cash box or register. Avoid big, fancy, printed signs and advertisements—neat, handwritten notes on index cards look more sincere. Do everything you can to have at least one other person helping you. You'll need this person to take over, so you can leave the table to do some buying yourself and to perform the necessary reconnaissance to check your prices.

Don't expose yourself to petty thieves. Expensive handhelds should be kept visible, but *just out of easy reach*. At the Flagstaff hamfest last year, one guy stepped up to a commercial display, picked up an Icom IC-24AT, and began looking at it. A

few minutes later the clerk noticed something awfully strange: the IC-24AT has "metamorphosed" into an old, beat up, IC-2AT!

Some dealers don't open their booths until after they've had a chance to go shopping first. Some of these guys are very shrewd and will go around buying up a lot of things, only to sell them again later in the day. Needless to say, these guys are sharks—and the practice rubs me the wrong way.

Another common question: "How about pricing and haggling?"

Make no bones about it, you're in a flexible price environment. Both buyer and seller are aware of this, and it's expected. Many people won't buy regardless of the price unless they can negotiate for some kind of discount. I've come down as little as five percent to make a sale which wouldn't have been made otherwise. Buyers want a deal, regardless of the price.

How many hot, smoking deals on late model, expensive gear are available? Few, if any.

Never, ever, price your for-sale item at your minimum price. Avoid the use of the word "Firm" in your pricing. Keep your lowest acceptable price in your head. If you don't like to haggle, then don't expect to sell much, or if you're buying, expect to overpay.

Don't be insulted by a fifty-percent offer on your asking price—it's a typical ploy. Usually, such offers really mean "I'll give you seventy-five or eighty percent of what you're asking for." Don't shut your bidder off with a blunt "no," unless an offer's obviously insincere. Do your best to counter any offer—you must show a willingness to concede *something*.

[Editor's note: In the next issue, AA7BQ will offer more pricing tips, as well as further hints on how to best approach buying and selling. If you would like to contact Fred directly, he's available at fred.lloyd@west.sun.com on the Internet.]



The WA1PHY Story

by David "DoC" Willard, W1EO

[Editor's note: WA1PHY is well-known to Boston-area packet radio operators. It's a major node, it's a BBS, and it's a TCP/IP switch-gateway. In this article, WA1PHY's chief sysop, W1EO, gives us some insight into how such a station operates. In addition to his 'PHY duties, DoC is also President of NEPRA, the New England Packet Radio Association.]

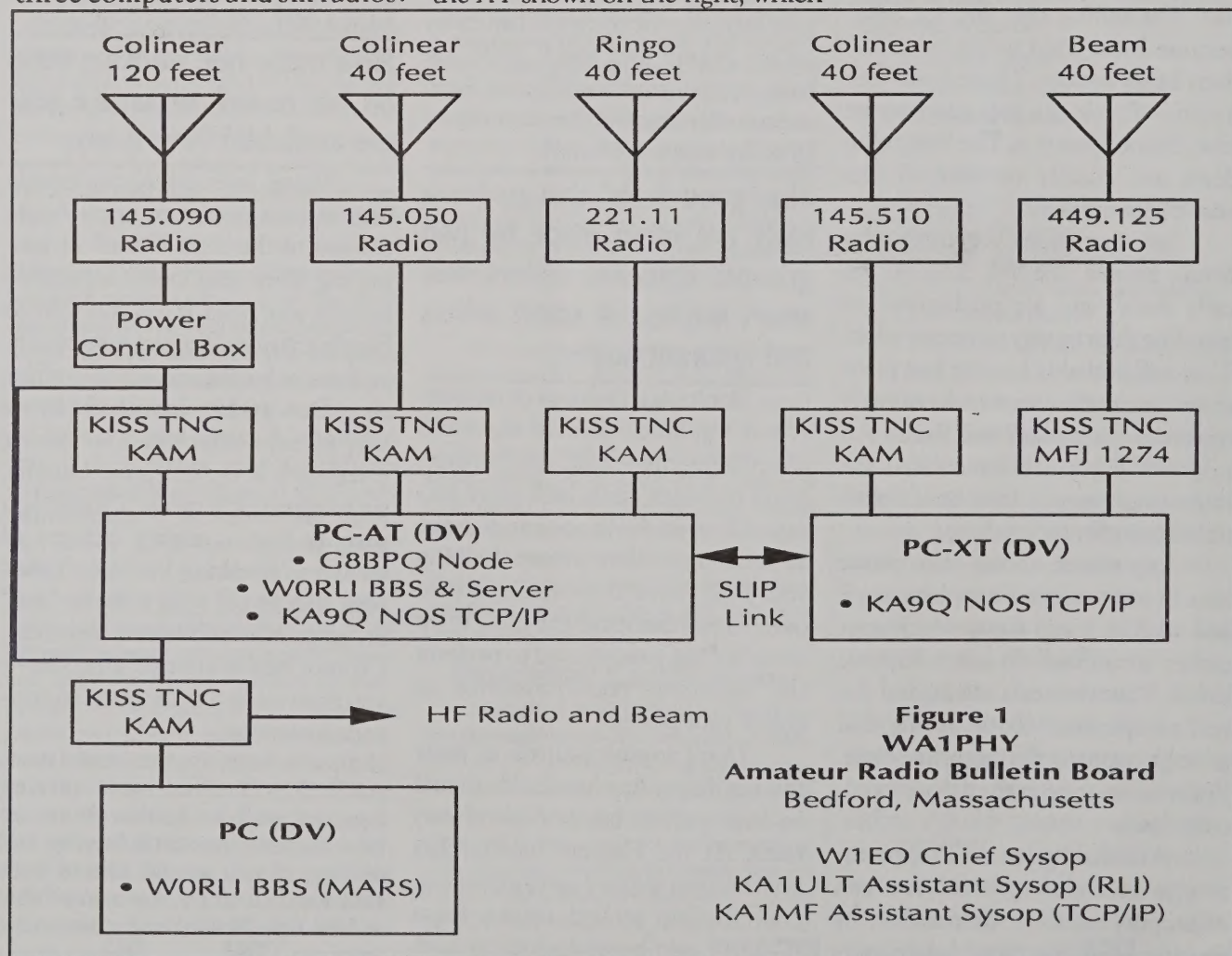
The WA1PHY amateur radio bulletin board is located at the MITRE Corporation headquarters in Bedford, Massachusetts. It is owned and operated by the MITRE Amateur Radio Club. It is a multi-computer and multi-protocol system. To serve both the AX.25-WORLI and TCP/IP worlds of the local packet radio community, it normally uses two computers and five radios—though it sometimes is configured with three computers and six radios!

Refer to Figure 1. The IBM AT on the left is the main computer used at WA1PHY. It runs the popular multi-connect node program written by G8BPQ, which permits several stations to simultaneously connect to the BBS on any of the three radio ports. It also supports Net/ROM-type communications using the node alias of "BED" on these three radio ports. At the same time, the AT runs a copy of the KA9Q NOS TCP/IP software. This allows the AT to communicate with the XT shown on the right, which

also runs NOS. The XT (which has two radio ports) serves as a TCP/IP front-end processor. The hard-wired connection between the PCs is called a SLIP link. Both of these computers use the DesQview multi-window timesharing program to permit all of the separate communications and maintenance programs to run concurrently.

A message server running in the main computer translates messages from the RLI format to the SMTP (Simple Mail Transfer Protocol) format of TCP/IP. It also translates messages in the other direction. The front-end processor reduces the processing load

(Continued on Page 5, 'PHY)



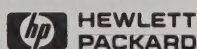
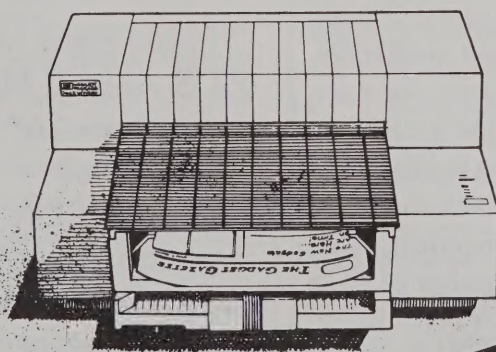
(**'PHY** Continued from page 4)
 of the main computer by processing the TCP/IP traffic not intended for WA1PHY. [The KA9Q NOS software requires the host PC to monitor all traffic on a channel. It uses the terminal node controller—TNC—in KISS (Keep it Simple, Stupid) mode. A KISS TNC does not screen out messages intended for other stations, as would a TNC in normal operation. While it makes the software more flexible, it comes at the price of greater CPU loading on the computer io—Ed.) The front-end processor also serves as a packet switch for a group of local TCP/IP stations and as a gateway to the main TCP/IP switch, WB6NIL (located in Southboro, Massachusetts).

During the recent Desert Storm operation, WA1PHY also operated a third computer, the lower PC, as a MARS (Military Affiliate Radio Service) packet station on HF. Appropriate messages could be transferred between the MARS and amateur radio computers for delivery via the audio connection of the KAM TNC's VHF port to the 145.090 MHz KAM tied to the main computer.

The complete station is connected to an emergency power system. If the primary power is lost, a diesel generator is automatically started and switched on-line. The power control box at the station holds power off for 30 seconds to remove any transients, after which the TNCs and computers re-boot. When com-

mercial power is restored, the 30 second wait is activated again, and the system automatically re-boots. WA1PHY is one of the few packet stations in the Greater Boston area to be so equipped. If the TNC connected to 145.090 should fail to transmit at least once every 30 minutes ("MAIL FOR" beacons, at a minimum) the control box also causes the power to recycle to force the complete station to re-boot. The power control box also provides a means to re-boot the station remotely. **88**

Plug and Play!



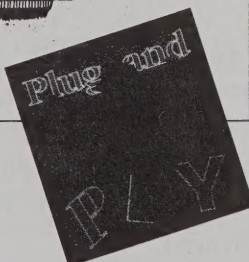
All work and no play makes for very dull documents. Here's the easiest way to put more zap in your life:

The DeskWriter printer from HP.

It has 35 available fonts. It produces crisp, clear characters in water resistant ink. It's fast. It prints at speeds comparable to laser-printers. It retails for under \$1,000.

And, it's ready to go the instant you plug it in.

See why it pays to have fun. Get down to business with the DeskWriter printer from HP.



(*Editor* Continued from page 1)
November issues). Tom's shoes will be hard to fill, but I'll try to maintain the tradition for quality established while Tom was at the helm.

In particular, we hope to expose new hams to some of the different resources and interesting facets of the hobby.

TWB's success has also depended upon the diligent efforts of Barry Porter, the Director of the Amateur Radio SIG. Barry has tirelessly performed all the layout and publishing tasks that make the newsletter *look* so good. While he may not have received the same attention given to the editor, his efforts are just as essential. TWB wouldn't be the publication it is without Barry's work. Fortunately, Barry has agreed to continue in this role, for which I'm very grateful.

Our Writers Make the Difference.

No matter who holds the editor's position, it's clearly the *contributors* who make TWB the publication it is. We're grateful for those who have written before, and we're always looking for more. Speaking from experience, it's fun to write! If you've got an idea for an article, please contact me. I've also got a list of possible topics, more than I can possibly write myself in the next year. So if you need an idea for a topic, let me know. I can be reached in our section of the BCS•Macintosh BBS (617-625-6747). My address is also listed on page 2.

In Future Issues...

I intend *The Wireless Bitstream* to continue in its efforts to help

newcomers get started. In particular, we hope to expose new hams to some of the different resources and interesting facets of the hobby. This month, for instance, we present the first of a two-part article on hamfesting. We also have a piece on an "electronic elmer" service on the Internet—not only is this a valuable service, it also presents a model for something that could be done locally, either on-air with packet or on landline BBSs. In future issues, we'll also start introducing you to some of the other digitally-oriented ham clubs in the area.

And What About the Group?

Any member who has recently attended a meeting or read the newsletter knows that the Ham SIG is in a state of flux. We've had two successful years, and we're trying to discern a direction for our future. We need volunteers.

...it's clearly the *contributors* who make TWB the publication it is.

The BCS as a whole is also engaging in self-examination. A lot is happening: personal computers are becoming appliances, not novelties; expenses for mailing and operating the society are going up, which has led the BCS leadership to enact dues increases and membership package changes; a number of BCS publication policies are changing; and a new BCS president took office last year. In the midst of this all, overall membership has declined significantly (although the Ham SIG has grown).

The Ham SIG leadership encourages you to *participate*

in decisions for the future. Call or write the BCS Main Office. Let them know how you feel about the recent changes, and what directions you think the society should follow. The people at One Kendall Square are anxious to know what parts of the BCS you most highly value—so those items can receive the proper emphasis.

I mentioned earlier that I agreed to edit TWB for four issues, ending in November. Why did I pick that date? First, the end of 1991 will mark three years of my service as Ham SIG Vice Director. I think that's quite enough time for any one person. I'll need a break, and the group will deserve some fresh blood. Second, it will also mark my next BCS membership renewal. Given all the recent changes, and given the state of the economy, I find that renewal is no longer an automatic decision for me. I hope that, with the aid of our participation this year, the BCS chooses a future direction that I can endorse. ☐☐

Please come to the BCS Annual Meeting June 26th

at

New England Life Hall,
Clarendon Street (Copely
Square), Boston, Ma.
Meeting Starts at 7:00.
Many Important issues
and votes will occur, and 6
"new" Board members will
be elected.

An Update on The FCC Packet Mess

by Tom Walsh, K1TW

The cover story in the March *Wireless Bitstream* expressed the opinion that an FCC official, J. J. Freeman, Engineer-in-Charge in Norfolk, Virginia, had made a mistake in citing several amateur packet BBS systems for automatically forwarding a message.

Since the incident occurred, much has been written about it. I have seen no one defend the propriety of the message itself. However, while the content of the message may have violated FCC regulations, it seems unreasonable to hold operators of automatic store-and-forward packet data nodes responsible for the content of relayed messages. There was a flurry of protest from the amateur community, particularly since informal discussions over many years with the FCC on this very matter had never resulted in such an interpretation before.

Whatever his reason... interpretation of regulations seems, at least on the surface, to be inconsistent with previous FCC guidance.

According to the April 26, 1991 issue of *Westlink Report*, most of the BBS operators involved received assistance from the ARRL in responding to the FCC. The operators argued that "their stations were in full compliance with the Rules and that no infraction had occurred." [At least one of the responses also indicated that the BBS operator had started reviewing all "@USA" messages prior to retransmission. —Ed.] Freeman's replies said, "in as much as you have stated that you have taken corrective action to prevent a repeat of the violation, no further action will be taken at this time." But, as *Westlink* points out, there was no corrective action to be taken.

It seems to me that J. J. Freeman was looking for a way out, perhaps to save face with his FCC colleagues, by stating that the BBS operators were

taking corrective action—when in fact they actually denied that any violation had occurred. Whatever his reason, Freeman's interpretation of regulations seems, at least on the surface, to be inconsistent with previous FCC guidance. If true, it should be of great concern to the FCC in Washington. If U.S. Telecommunications policy were left to the whim of local FCC officials, it could lead to chaos.

The same April 26 *Westlink Report* takes a strong stand by saying: "*Westlink Report* stands firmly with the BBS operators who have given so much to the development of the radio art, and rejects out of hand Freeman's position." *Westlink* goes on to urge Congressional action to take Freeman to task.


Westlink's May 10 issue continues coverage of the story in an article titled "Freeman Ouster Sought by Hams." *Westlink* says, "What began as a discussion by packet radio sysops at the Dayton Hamvention has blossomed into a nationwide campaign to seek Congressional oversight into Freeman's actions last January and February against ten east-coast PBBS sysops." *Westlink* then goes on to print a letter one amateur wrote to his Congressman.

For the sake of the amateur service, this precedent cannot be allowed to stand.

In my opinion, it is unfortunate that this situation has turned into such a mess. I still think Freeman's interpretation is absolutely wrong, and if allowed to stand, has the potential to severely damage amateur radio networking. If his interpretation were accepted by all other FCC engi-

neers and the FCC Personal Radio Bureau, it would shut down amateur computer networks overnight; this would be contrary to the public interest.

I have always felt amateur radio must take a strong, proactive stance with the FCC. Amateur radio is regulated just like any other telecommunications service, and to defend our service requires vigilance and professionalism, such as is often displayed by the ARRL. If anyone feels compelled to write to Congress on this matter, be sure to write an informed, well thought-out letter. Since the problem was created by an FCC employee, I would prefer to see the FCC in Washington resolve the issue first. I am frankly surprised by Washington's silence. Seeking corrective action through Congress is certainly our right, but would be regrettable.


For the sake of the amateur service, the precedent set by J.J. Freeman cannot be allowed to stand. 

Call for Papers—10th Computer Networking Conference

from ARRL

The tenth ARRL Amateur Radio Computer Networking Conference will be held September 27-29, 1991, in the San Francisco area. This year's conference will be hosted by the Northern California Packet Association (NCPA).

The deadline for receipt of camera-ready papers is August 12. Anyone wishing to submit a paper should contact Lori Weinberg at ARRL, 225 Main Street, Newington, CT 06111 for paper guidelines and/or an authors package. (Telephone 203/666-1541; fax 203/665-7531.)

Topics will include, but are not limited to, HF packet investigations, network development, digital signal processing, digital speech, hardware, software, protocols, packet services, packet satellites, and future systems. 

Future BCS Amateur Radio SIG Meetings

Mark these in your calendar now!

Help with planning our meetings is still needed.

For latest meeting information, please check the BCS Update Calendar section. For last minute information, check our Ham Radio Section of the BCS Mac TBBS (617-625-6747) and packet radio about a week prior to the meeting.

Come at 7 p.m. to meet other members or seek help. Meetings start promptly at 7:30 p.m. Please note that Our July and August Meetings will be held at MIT Sloan School, which is at the corner of Wadsworth and Amherst Streets in Cambridge. Our September meeting will be held at BCS Center, Kendall Square, Cambridge, MA.

Tuesday, June 4, 1991

GTE Labs, Waltham, MA
All about Internet

Tuesday, July 2, 1991

Sloan School, MIT, Cambridge, MA.
Building E-51 Room 140
All about Internet, Part 2

Tuesday, August, 1991

Sloan School, MIT, Cambridge, MA.
Building E-51 Room 140

Tentatively, a guest speaker from Apple Computer will talk about Apples FCC proposal for Wireless Computer Networking.

Other Meetings of Interest

June 26, 1991

NE Life Hall, Copely Square,
Boston, MA

BCS General Meeting
7:00 PM

Part 1- BCS Annual Meeting
Part 2- New Products from Hewlett-Packard

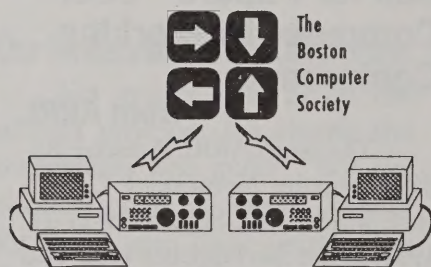
June 10, 1991

Westin Hotel, Copley Place
Boston, MA

7:00 PM

Microsoft's Bill Gates will announce the shipment of a major upgrade to their computer operating system

Do you have an idea for a future meeting or want to help organize our programs? Let Ron Alpert, KA1UGD know



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